ABSTRACT

Methods, systems, and apparatus for processing packet fragments for reassembly into packets. Datastreams containing packet fragments are received and data corresponding to different channels are segregated. For each channel, data is then aggregated to recreate packet fragments. Once the fragments are recreated, they are, if required, resequenced using a two-tier memory mapping structure where only pointers, and not the fragments, are manipulated. After resequencing fragments to reassemble the packet, the reassembled packet is dispatched to its ultimate destination. The present invention also provides a method of load balancing between multiple links when packet fragments are transmitted from a fragmenting node through a multiple link bundle.